

REMARKS

Claims 1-20 and 23-28 are all the claims pending in the application.

Support for the amendment to claim 1 may be found in the specification as originally filed, for example, in original claims 21 and 22. Claims 21 and 22 are cancelled.

I. The Art Rejections

Claims 1-28 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Wachi et al.

Claims 1-28 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Takahashi et al.

The Examiner also makes a separate rejection of claims 1-28 based on Takahashi et al under 35 U.S.C. §102(a) or, in the alternative, under 35 U.S.C. 103(a).

Claims 1-14 and 20-28 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Yamamoto et al or Tsuno et al.

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Wachi et al, Takahashi et al, Yamamoto et al and Tsuno et al and request that the Examiner reconsider and withdraw these rejections in view of the following remarks.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

Wachi et al does not teach or disclose the recitation that the deformation factor of the photothermal converting layer is 110% or more.

Wachi et al is only available as a reference as of its filing date under 35 U.S.C. §102(e). As discussed above, Wachi et al does not anticipate Applicants' claimed invention. Further, under 35 U.S.C. §103(c):

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under [§103] where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Since the present invention and Wachi et al were commonly owned at the time of the making of the present invention, Wachi et al is not available as prior art under §103(c).

Fuji Photo Film Co., Ltd. is the assignee of Wachi et al by virtue of an Assignment from all of the inventors thereof and is also the assignee of the above-captioned U.S. Application No. 10/052,392 by virtue of an Assignment from all of the inventors thereof executed on January 16, 2002 and recorded at reel 012532, frame 0503.

The undersigned hereby represents that Wachi et al and the claimed invention were, at the time the invention of the instant application was made, owned or subject to an obligation of assignment to Fuji Photo Film Co., Ltd.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

In view of the above, it is respectfully submitted that Wachi et al is not available as art under 35 U.S.C. §103 and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Likewise, Takahashi et al does not teach or disclose the recitation that the deformation factor of the photothermal converting layer is 110% or more.

Neither Yamamoto et al nor Tsuno et al contain any disclosure concerning the resolution and the image-transferred size. In addition, neither Yamamoto et al nor Tsuno et al disclose or suggest the recitation that the deformation factor of the photothermal converting layer is 110% or more.

For the above reasons, it is respectfully submitted that the subject matter of claims 1-20 and 23-28 is neither taught by nor made obvious from the disclosures of Wachi et al, Takahashi et al, Yamamoto et al and Tsuno et al and it is requested that the rejections under 35 U.S.C. §§102 and 103 be reconsidered and withdrawn.

II. Conclusion

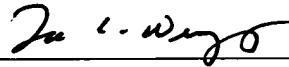
In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §102 and the rejections under 35 U.S.C. §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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PATENT TRADEMARK OFFICE

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 21 and 22 are canceled.

The claims are amended as follows:

1 (Amended). A multicolor image-forming [material] system comprising:
an image-receiving sheet comprising an image-receiving layer; and
at least four thermal transfer sheets each comprising a support, a
photothermal converting layer and an image-forming layer, and each having a
different color,
wherein an image is formed by the method comprising the
steps of:
superposing each one of the at least four thermal transfer sheets on the
image-receiving sheet to be in a state of the image-forming layer being in contact
with the image-receiving layer; and
irradiating the thermal transfer sheet with a laser beam to transfer an image
in an area of the image-forming layer subjected to irradiation onto the image-
receiving layer, wherein the transferred image has resolution of 2,400 dpi or more
and an area of the image-receiving layer on which an image is transferred is a size
of 515 x 728 mm or more,

and a ratio of the reflection optical density (OD_r) of the image-forming layer to a thickness of the image-forming layer (μm unit) is 1.50 or more, and a contact angle in relation to water of the image-forming layer and the image-receiving layer is from 7.0 to 120.0°.

2 (amended). The multicolor image-forming [material] system according to claim 1, wherein a difference between the contact angle in relation to water of the image-forming layer and the contact angle in relation to water of the image-receiving layer is 73° or less.

3 (amended). The multicolor image-forming [material] system according to claim 1, wherein a difference between the contact angle in relation to water of the image-forming layer and the contact angle in relation to water of the image-receiving layer is 65° or less.

4 (amended). The multicolor image-forming [material] system according to claim 1, wherein the image-forming layer comprises a first binder comprising a monomer unit and the image-receiving layer comprises a second binder comprising a monomer unit, and at least one of the monomer unit of the first binder and at least one of the monomer unit of the second binder are the same.

5 (amended). The multicolor image-forming [material] system according to claim 4, wherein the same monomer unit is a vinyl acetal unit.

6 (amended). The multicolor image-forming [material] system according to claim 4, wherein at least one of the same monomer unit is selected from a styrene unit, a butyral unit and a styrene acrylate unit.

7 (amended). The multicolor image-forming [material] system according to claim 1, wherein each of the at least four thermal transfer sheets and the image-receiving sheet comprises a coating layer and at least one of the coating layer comprises a surface tension decreasing agent.

8 (amended). The multicolor image-forming [material] system according to claim 7, wherein the surface tension decreasing agent is capable of:

making a surface tension of 1-propanol 22.5 mN/m or less at the time of being contained in a solvent of 1-propanol to be in concentration of 0.5 % by weight;

making a surface tension of methyl ethyl ketone 22.5 mN/m or less at the time of being contained in a solvent of methyl ethyl ketone to be in concentration of 0.5 % by weight; and

making a surface tension of N-methyl-2-pyrrolidone 25.0 mN/m or less at the time of being contained in a solvent of N-methyl-2-pyrrolidone to be in concentration of 0.5 % by weight.

9 (amended). The multicolor image-forming [material] system according to claim 7, wherein the surface tension decreasing agent is a perfluoroalkylpolyoxyalkylene oligomer.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

10 (amended). The multicolor image-forming [material] system according to claim 1, wherein each of the at least four thermal transfer sheets and the image-receiving sheet comprises a coating layer and at least one of the coating layer comprises at least two kinds of waxes having a melting point of 100°C or less.

11 (amended). The multicolor image-forming [material] system according to claim 10, wherein the wax is a fatty acid amide.

12 (amended). The multicolor image-forming [material] system according to claim 11, wherein the fatty acid amide comprises a fatty acid amide in which a fatty acid moiety is a saturated fatty acid and a fatty acid amide in which a fatty acid moiety is an unsaturated fatty acid.

13 (amended). The multicolor image-forming [material] system according to claim 10, wherein at least one of the coating layer comprises at least one of monomethacrylate, monoacrylate, dimethacrylate, diacrylate, trimethacrylate, triacrylate, tetramethacrylate and tetraacrylate.

14 (amended). The multicolor image-forming [material] system according to claim 10, wherein at least one of the coating layer comprises one of:

a monomer represented by the following formula (1):



AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

wherein R_1 , R_2 and R_3 each independently represents one of a hydrogen atom, a lower alkyl group, and a $-\text{CH}_2\text{-OCO-CR=CH}_2$ group in which R represents one of a hydrogen atom and a methyl group; and

a homo- or copolymer comprising the monomer as the main component.

15 (amended). The multicolor image-forming [material] system according to claim 1, wherein the image-forming layer comprises a rosin-based resin having a softening point of 100°C or less measured by a ring and ball method and an acid value of from 2 to 220 measured according to JIS K3504.

16 (amended). The multicolor image-forming [material] system according to claim 15, wherein the rosin-based resin is a resin selected from a rosin, a hydrogenated rosin, a modified rosin, derivatives of these rosins, and a rosin-modified maleic acid resin.

17 (amended). The multicolor image-forming [material] system according to claim 15, wherein the rosin-based resin comprises 30 % by weight or more of an abietic acid type rosin acid.

18 (amended). The multicolor image-forming [material] system according to claim 15, wherein the rosin-based resin is an esterified product of a rosin comprising 30 % by weight or more of an abietic acid type rosin acid and at least one kind of polyhydric alcohol selected from ethylene glycol, glycerol and pentaerythritol.

19 (amended). The multicolor image-forming [material] system according to claim 1, wherein the image-receiving layer comprises a rosin-based resin having a softening point of less than 130 °C measured by a ring and ball method and an acid value of from 2 to 250 measured according to JIS K3504.

20 (amended). The multicolor image-forming [material] system according to claim 1, wherein a ratio of a optical density (OD_{LH}) of the photothermal converting layer to a thickness of the photothermal converting layer (μm unit) is 4.36 or more.

23 (amended). The multicolor image-forming [material] system according to claim 1, wherein a ratio of the reflection optical density (OD_r) of the image-forming layer to a thickness of the image-forming layer (μm unit) is 2.50 or more.

24 (amended). The multicolor image-forming [material] system according to claim 1, wherein a ratio of the reflection optical density (OD_r) of the image-forming layer to a thickness of the image-forming layer (μm unit) is 1.80 or more, and a contact angle in relation to water of the image-receiving layer is 86° or less.

25 (amended). The multicolor image-forming [material] system according to claim 1, wherein the photothermal converting layer comprises a heat resisting resin having a glass transition temperature of from 200°C to 400°C and a heat decomposition temperature of 450°C or more.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 10/052,392

26 (amended). The multicolor image-forming [material] system according to claim 25, wherein the heat resisting resin is an organic solvent-soluble polyimide resin.

27 (amended). The multicolor image-forming [material] system according to claim 1, wherein the image-forming layer comprises from 20 to 80 % by weight of a pigment and 20 to 80 % by weight of an amorphous organic high molecular weight polymer having a softening point of from 40 to 150°C, and the image-forming layer has a thickness of from 0.2 μm to 1.5 μm .